

Stool Apparatus for Chair

Field of Invention

The present invention relates to a chair and, more particularly, to a stool for a chair.

Background of Invention

Referring to Figures 9 and 10, a conventional stool 101 is disclosed for a chair 102 for use in an office. The chair 102 includes a base 122 put on the ground, a post 121 installed on the base 122 and a seat 123 installed on the post 121. The stool 101 defines an aperture 111 for receiving the post 121 so that the stool 101 can be put around the post 121 and on the base 122. The base 122 includes five legs each including an inclined upper face. The stool 101 includes a horizontal lower face. To put the stool 101 on the base 122 well, a block 113 is formed on the lower face of the stool 101 and put on the upper face of one of the legs of the base 122. The stool 101 includes a plurality of bosses 112 for massaging the feet of a user sitting in the chair 102. Several problems are however encountered in using the stool 101. Firstly, the stool 101 cannot suit users of different sizes for it can be put in only one vertical position and only horizontal position relative to the post 121. Secondly, it might be difficult for the user to put his or her feet on the stool 101 because it tends to rotate on the post 121. Thirdly, the user feels uncomfortable putting his or her feet on the stool 101 for bending his or her legs.

The present invention is therefore intended to obviate or at least alleviate

1 the problems encountered in prior art.

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3 **Summary of Invention**

4 It is an objective of the present invention to provide a chair with a stool
5 apparatus that can suit users of different sizes.

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7 It is another objective of the present invention to provide a chair with a
8 stool apparatus that users can use with comfort for a long time.

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10 It is another objective of the present invention to provide a chair with a
11 stool apparatus that a user can easily use.

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13 According to the present invention, a stool apparatus is provided for a
14 chair. The chair includes a base, a post installed on the base and a seat
15 installed on the post. The stool apparatus includes a stool, a carriage
16 and a telescopic device. The carriage is used for carrying the stool.
17 The telescopic device is used for connecting the carriage to the post.

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19 Other objects, advantages and novel features of the invention will become
20 more apparent from the following detailed description in conjunction
21 with the attached drawings.

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23 **Brief Description of Drawings**

24 The present invention will be described via detailed illustration of the
25 preferred embodiment referring to the drawings.

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1 Figure 1 is a perspective view of a chair equipped with a stool apparatus
2 according to the preferred embodiment of the present invention.

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4 Figure 2 is an exploded view of the stool apparatus shown in Figure 1.

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6 Figure 3 is an enlarged, cross-sectional view of a clamp of the stool
7 apparatus shown in Figure 4.

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9 Figure 4 is similar to Figure 3 but shows the clamp in a different position.

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11 Figure 5 is a cross-sectional view of the stool apparatus of Figure 1.

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13 Figure 6 is similar to Figure 5 but shows the stool apparatus in a different
14 position.

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16 Figure 7 shows a user using the stool apparatus shown in Figure 4.

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18 Figure 8 is an enlarged, partial, cross-sectional view of the stool apparatus
19 shown in Figure 2.

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21 Figure 9 is a partial perspective view of a chair equipped with a
22 conventional stool apparatus shown in Figure 1.

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24 Figure 10 is a partial side view of the chair shown in Figure 1.

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Detailed Description of Preferred Embodiment

Referring to Figure 1, a chair 1 is equipped with a stool apparatus 20 according to the preferred embodiment of the present invention. The chair 1 includes a base 4 put on the ground or floor, a post 2 installed on the base 4 and a seat 3 installed on the post 2. The base 4 includes five legs each equipped with a caster 5. The stool apparatus 20 is attached to the post 2 by means of a clamping device 10.

Referring to Figures 2-4, the clamping device 10 includes a first jaw 11, a second jaw 12 and two quick release elements 13. An end of the first jaw 11 is hinged with an end of the second jaw 12. An opposite end of the first jaw 11 defines two cutouts 112. An opposite end of the second jaw defines two holes 122. The first jaw 11 includes a curved face 111 for receiving the post 2. The second jaw 12 includes a curved face 121 for receiving the post 2. Typically, each quick release element 13 includes a screw 131 and a lever/cam 132 hinged with the screw 131. Each screw 131 is inserted into engagement with a nut 133 through related one of the cutouts 112 and related one of the holes 122.

The stool apparatus 20 includes a telescopic device, a tension spring 24 put in the telescopic device, a carriage 25 connected with the telescopic device and a stool 26 installed on the carriage 25.

The telescopic device consisting of a first tube 21, a second tube 22 inserted in the first tube 21 and a third tube 23 inserted in the second tube 22. The first tube 21 includes a rear end secured to the second jaw 12

1 via adhesion, welding or any appropriate means. The third tube 23
2 includes a front end defining a screw hole 232.

3
4 The tension spring 24 includes a rear end attached to the rear end of the
5 first tube 21 and a front end attached to the front end of the third tube 23.
6 The tension spring 24 causes the telescopic device to shrink.

7
8 The carriage 25 includes a vertical bar 252 attached to the third tube 23, a
9 horizontal bar 253 integrated with the vertical bar 252 and two wheels
10 254 attached to the horizontal bar 253. The vertical bar 252 includes a
11 lug 251 formed at an upper end and an aperture 256 defined therein near
12 the upper end.

13
14 A screw 27 is driven into the screw hole 232 through the aperture 256 so
15 as to attach the carriage 25 to the telescopic device

16
17 The stool 26 includes two lugs 261. Through the lugs 261 and 251, a
18 screw 28 is driven into engagement with a nut 29 so as to pivotally
19 connect the stool 26 with the carriage 25. The stool 26 includes a
20 groove 265 defined in the front face in order to receive the vertical bar
21 252 when the stool 26 is put vertically.

22
23 The stool 26 can be moved relative to the post 2 between a first horizontal
24 position shown in Figure 5 and a second horizontal position shown in
25 Figure 6. Thus, the stool apparatus can suit users of different sizes,
26 specifically legs of different lengths. Although not shown, the stool

1 apparatus can be put in various vertical positions on the post 2.

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3 Referring to Figure 7, a user can put his or her feet on the stool 26. The
4 stool 26 is in a tilted position. The stool 26 is kept in the tilted position
5 by means of a retaining device to be described referring to Figure 8.

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7 Referring to Figure 8, the retaining device includes a concave face 262
8 formed between the ears 261. A hole 266 is defined in the concave face
9 262. A spring 264 and a detent 263 are put in the hole 266. A plurality
10 of holes 255 is defined in the lug 251. Selective one of the holes 255
11 receives the detent 263 so as to retain the stool 26 in selective one of
12 several positions relative to the carriage 25.

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14 The present invention has been described via detailed illustration of the
15 preferred embodiment. Those skilled in the art can derive variations
16 from the preferred embodiment without departing from the scope of the
17 present invention. Therefore, the preferred embodiment shall not limit
18 the scope of the present invention defined in the claims.

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